

Application No.: 10/561,770
Amendment Dated: June 21, 2010
Reply to Office Action of: March 25, 2010

MAT-8802US

Remarks/Arguments:

Claims 1-14, 16, 17, 30-35, 37-39, and 41-43 are presently pending. Applicants herein cancel claims 15 and 36. Applicants herein amend claim 1. Reconsideration is respectfully requested in view of the above amendments and the following remarks.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-3, 6-17, and 41-43 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Applicants' Admitted Prior Art (AAPA) in view of Chou (US Pat. 5,169,290), and further in view of Fujita (JP 2001-032794). Claims 4, 5, and 30-39 stand rejected under 35 U.S.C. § 103(a) as unpatentable over AAPA, Chou, and Fujita, further in view of Nagai et al. (US Pat. 4,647,271). It is respectfully submitted that the claims are patentable over the cited art for the reasons set forth below.

Claims 15 and 36 are cancelled, thus obviating the rejection of those claims.

Applicants' invention, as recited by claim 1, includes a feature which is not disclosed, taught, or suggested by the cited art, namely:

... the asperities extend in a direction parallel to the rotation axis of the plurality of blades, and ...

... the asperities extend an axial distance less than the axial length of the plurality of blades.

The asperities are parallel to the rotation axis of the blades, and are axially shorter than the blades. This feature is found in the originally filed application at page 10, lines 17-19, and FIG. 4B. No new matter has been added.

The Office Action acknowledges that AAPA fails to disclose asperities formed on the blades. Applicants respectfully submit that the addition of Chou and Fujita fails to make up for the deficiencies of AAPA with respect to claim 1.

Chou is directed to a blade for a centrifugal flow fan. Chou discloses a blade 12 having a trip 21. Chou discloses that the trip extends over generally the entire span of the blade. See Chou at column 2, lines 43-61, and column 3, lines 1-3.

Fujita is directed to a centrifugal fan. As illustrated in FIG. 9, Fujita discloses angled projections 25 formed on a vane 13. Fujita discloses that projections 25 generally extend along the entire length of vanes 13. See FIG. 1 of Fujita.

The Office Action asserts that FIG. 9 of Fujita discloses projections 25 that extend an axial distance less than the axial length of vanes 13. While Applicants acknowledge this interpretation of Fujita, Applicants submit that the only reason the projections in FIG. 9 extend an axial distance less than the axial length of vanes 13 is because the projections 25 are angled. To the contrary, Fujita discloses that when projections 25 are not angled, they extend the entire axial length of vanes 13. See e.g. FIGS. 1 and 10 of Fujita.

Applicants respectfully submit that neither Chou nor Fujita disclose, teach, or suggest asperities that are both (1) parallel to the rotation axis of the blades and (2) shorter than the blades. Further, Applicants submit that the combination of Chou and Fujita fails to provide any reason for asperities that are parallel to the rotation axis to extend an axial distance less than the axial length of the blades. This is different from claim 1, which requires that (1) the asperities extend in a direction parallel to the rotation axis of the plurality of blades, and (2) the asperities extend an axial distance less than the axial length of the plurality of blades.

It is because Applicants include the above features that the following advantages are achieved. Due to the shape of the asperities, "noise characteristic and total pressure efficiency are improved over the entire zone of the air volume and static pressure characteristic" and "the sound pressure level is significantly reduced around 2,000 Hz." See the application at page 11, lines 12-19, and FIGS. 7 and 8.

Accordingly, for the reasons set forth above, claim 1 is patentable over the art of record.

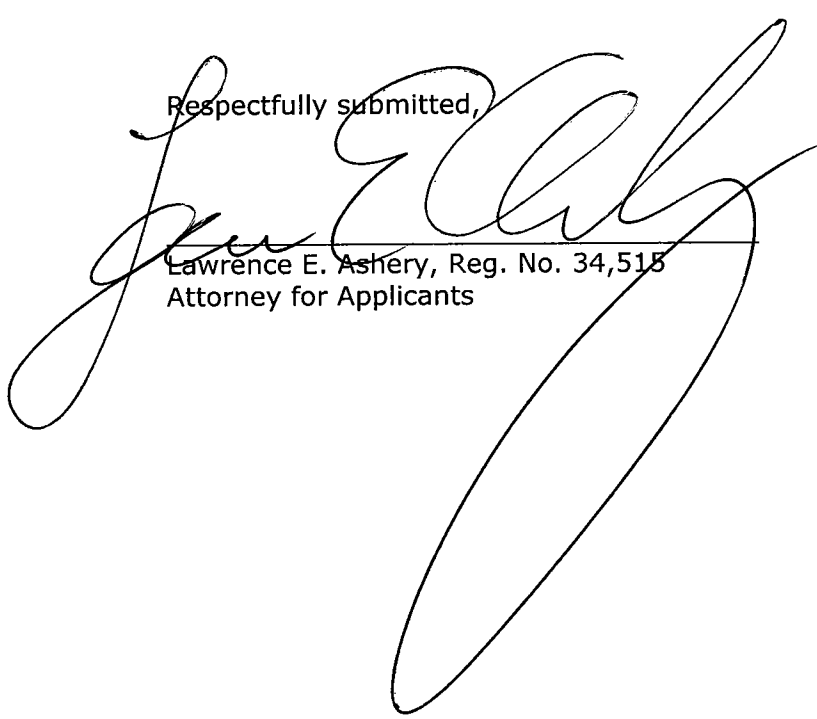
Claims 2-14, 16, 17, 30-35, 37-39, and 41-43 include all features of claim 1, from which they depend. Thus, claims 2-17, 30-39, and 41-43 are also patentable over the cited art as dependent on an allowable base claim.

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In view of the amendments and arguments set forth above, the above-identified application is in condition for allowance which action is respectfully requested.

Respectfully submitted,



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